



**STATE OF MONTANA
MONTANA DEPARTMENT OF TRANSPORTATION
JOB PROFILE**

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Update

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Formal Review

Date Submitted 1/23/2014

SECTION I - Identification

Working Title: Materials Inspection Specialist

Department: Transportation

Job Code Number: 172716

**Division & Bureau: Engineering/
Materials**

Job Code Title: Materials Laboratory Specialist

Section & Unit: Testing Section

Pay Band: 6

Work Address: Helena Headquarters

Position Number: 40105

Phone: 406-444-6300

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FLSA Exempt

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FLSA Non-Exempt

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Non-Union

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MPEA

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Blue Collar

Profile Completed By: Matt Strizich

Work Phone: 406-444-9201

Work Unit Mission Statement or Functional Description:

The MDT's mission is to serve the public by providing a transportation system and services that emphasize quality, safety, cost effectiveness, economic vitality and sensitivity to the environment.

The Highways and Engineering Division prepares projects for bidding and coordinates highway construction. The Division is made up of the Materials, Construction, Right-of-Way, Bridge, Traffic and Safety, Environmental Services, Engineering Oversight, and Preconstruction bureaus; the CADD Systems and Engineering Management Support sections; and five District Construction Offices in Missoula, Butte, Great Falls, Glendive, and Billings for budget and workforce purposes. Personnel in the Construction Bureau are responsible for supervising highway construction from the time a construction contract is awarded to a private contractor until the project is completed and the work approved. They ensure roads and bridges are built or reconstructed according to established standards.

The principal goals of the Materials Bureau of the Department of Transportation are to develop and implement comprehensive data collection, testing, and analysis programs that facilitate pavement

project selection and pavement surface and subsurface design that addresses Montana's most important statewide transportation needs and to support the quality of materials incorporated into Montana's highway system. These activities help officials select projects and provide information for short and long-range engineering and construction programs. These goals are addressed through the complex interaction and interrelationship of the Bureau's three Sections. The Bureau consists of the Geotechnical Section, Physical Testing Section, and Pavement Analysis and Research Section.

Describe the Job's Overall Purpose:

This position serves as a Materials compliance inspector and is responsible for coordinating inspection, analysis, and implementing training services to ensure the quality, safety, efficiency, and cost effectiveness of laboratory operations. The position develops QA/QC standards and implements eligibility requirements for WAQTC certification and related laboratory accreditation necessary for federal funding. The position also performs a variety of other duties as assigned. The incumbent reports to the Inspection Operation Supervisor (#40038) within the work unit.

<i>SECTION II - Major Duties or Responsibilities</i>	<i>% of Time</i>
<u>A. LABORATORY INSPECTION AND ACCREDITATION</u>	<u>50%</u>
1. Receives AASHTO quality assurance/quality control standards and develops specifications for MDT labs to operate and comply with QA/QC standards.	
2. Implements certification procedures for statewide materials laboratories to ensure that critical federal CCRL and AMRL accreditation requirements are maintained. Evaluates certification standards and integrates requirements into ongoing inspection processes to ensure certification eligibility for statewide laboratories and staff.	
3. Inspects and analyzes laboratory equipment to ensure safety, efficiency, and effective operations. This involves testing and assessing equipment operations, performance levels, storage; and maintenance and repair schedules; testing calibration settings and procedures; and evaluating safety mechanisms to ensure standards are met.	
4. Identifies non-compliance issues and develops corrective action plans and implements changes to ensure compliance.	
5. Writes QA/QC procedures and creates laboratory referee samples to assess testing equipment and procedures. Identifies problems and deficiencies of specific problems and assesses trends affecting statewide laboratory operations and activities (e.g., common equipment failures, testing impediments, etc.) and brings into compliance.	
6. Develops comprehensive inspection reports based upon analyses and findings to report on compliance, define problems, and propose short and long-term solutions and alternatives. Reports include both objective finding related to equipment performance levels, results of testing procedures, etc. as well as professional recommendations regarding the best options for improvement based on established standards, available resources, new methods and technologies, staff competencies, and other factors.	
7. Analyzes trends and outliers and conducts further investigations, recommends corrective action to ensure compliance. Implements and enforces corrective actions to maintain accreditation.	

8. Documents all actions and updates manuals in preparation for annual AASHTO inspection. Adjusts and implements new MDT testing standards and criteria after inspection.
9. Monitors statewide District and Area laboratory operations to ensure continuous compliance with Department, State, and federal standards as well as WAQTC certification standards and laboratory accreditation requirements. Proactively identifies actual or potential deficiencies; develops and recommends new procedures, equipment, maintenance schedules, and other changes; and coordinates with District, Area, and project site laboratories to ensure effective mitigation and prevention of problems.
10. Maintains a user's QA/QC manual for MDT labs in order to provide consistency and compliance conducts site visits and provides training as needed.
11. Coordinates with federal certification authorities to evaluate and recommend new standards and procedures, explain and/or justify exceptions and deficiencies, and provide reports. Contacts AASHTO to verify interpretation as needed.
12. Documents errors and inefficiencies in national AASHTO standards and specifications, develops and proposes new or modified procedures and national standards. Creates reports documenting reasons, justifying need, and demonstrating efficiency of new or modified procedures and standards. Participates in national DOT meetings to develop and/or update AASHTO standards.

B. TRAINING AND CERTIFICATION

45%

1. Provides materials testing consultation and technical assistance to laboratory personnel and other Department staff throughout the course of projects to enhance the overall quality and efficiency of testing processes ensure personal safety and effective equipment operations; and maintain certification and accreditation requirements.
2. Coordinates training programs to educate, test, and/or certify staff on various testing methods, procedures, and standards; safety issues; equipment operations; information systems; and other developments. Designs training curricula, materials, and schedules; delivers training sessions or coordinates training from other staff or consultants; and evaluates the effectiveness of training for continuous improvement.
3. Instruct MDT's materials training and qualification programs to ensure conformance with training, testing, and certification requirements. Coordinates with AASHTO, WAQTC, and other certification authorities regarding training and testing curricula, procedures, materials, outcomes, and other issues to ensure conformity, identify deficiencies, and resolve problems affecting accreditation.
4. Maintains a contemporary knowledge of materials sampling and testing practices, equipment, procedures, and State and federal requirements to ensure that laboratory inspection and certification processes reflect the most current methods, technologies, and requirements. Researches new products, trends, and approaches to laboratory inspections, materials testing procedures, equipment operations, certification requirements and other issues to serve as a technical specialist and information resource for other Bureau and Department staff.

5. Determines training needs of Unit staff through analysis of program effectiveness, new methods and policies, and staff performance. Assists in developing training plans and presents or coordinates training through personnel specialists, training offices, or outside consultants to ensure that modern appraisal methods are available. Ensures consistency in the application of training opportunities for all Quality Control staff. Ensures that Unit personnel are properly supervised and trained to ensure effective program operations; to include independent assurance assessment of WAQTC certified technicians.
6. Implements MDT's library of highway and bridge materials training documents, reference works, periodicals, research papers, technical manuals, visual and audio media, software, and other resources. Manages access, return, storage, and disposal of resource materials; responds to specialized information requests; and recommends purchase/acquisition of new resources.
7. Coordinates review, coding, and payment of training expenses associated with training course delivery, publications, materials, seminar attendance, and others to ensure accurate and timely payment in accordance with MDT policies and purchase agreements.

C. OTHER DUTIES

05%

This position performs a variety of other duties as assigned by the Quality Control Supervisor in support of Bureau and Division objectives. This includes exchanging information with consultants, agency staff, and the public; coordinating special projects; participating in ongoing training and educational programs; and performing a variety of other duties as directed.

The following duties and/or specific tasks listed under section II above are considered "essential functions" because they require specialized expertise and skill and are the primary reasons the job exists (they must be performed by this position with or without accommodations):

This position coordinates and conducts materials laboratory inspection and equipment certification procedures to ensure the quality, safety, efficiency, and cost effectiveness of laboratory operations and to maintain eligibility requirements for WAQTC certification and related laboratory accreditation necessary for federal funding. This involves decisions and judgments associated with developing inspection procedures, standards, and priorities; inspecting laboratory equipment and procedures; determining and resolving deficiencies and impediments; maintaining certification requirements and standards; and researching and evaluating new methods, procedures, and technologies to continually enhance materials laboratory functions and operations.

The following mental and physical demands are associated with these essential functions:

The following duties are considered essential functions because they require specialized expertise and skill and are the primary reasons the job exists:

Duty A: Laboratory Inspection and Certification
Duty B: Materials Training and Testing
Duty C: Technical Assistance

PHYSICAL

- This position is required to carry up to 70 lbs.
- Carry light items (papers, books, small parts)

- Remaining seated for extended periods of time, with occasional walking; standing for long periods; bending
- Extensive travel within the state (over 20,000 miles/ year)
- Operating a personal computer, laptop and instruction equipment
- Communicate in writing, in person, and over the phone

MENTAL

- Deal with the public on a regular basis
- Ability to multi-task
- Demands for accuracy in all aspects of work
- Ability to meet inflexible deadlines
- Decision making that affects public health and safety
- Computing arithmetic operations
- Comparing data
- Compiling information
- Analyzing
- Coordinating
- Synthesizing
- Negotiating
- Instructing

Does this position supervise others? ☐ Yes ☒ No

Attach an Organizational Chart.

SECTION III - Minimum Qualifications - List minimum requirements for the first day of work.

Critical knowledge and skills required for this position:

KNOWLEDGE:

This position requires extensive knowledge of materials inspection, sampling, testing, and analysis protocols and procedures; associated mathematical and scientific principles; advanced research methods and techniques; and adult education and training principles. This position also requires knowledge of State, federal, AASHTO, WAQTC, and ASTM testing standards, procedures, and specifications; FHWA specifications and procedures; methods and techniques of highway construction; and safety practices and procedures. A progressively responsible knowledge of specialized sampling and testing equipment, software, and other technologies is also required.

SKILLS:

This position requires extensive skills in the translating technical information to varied audiences; training others through instruction, demonstration, and constructive feedback; application of laboratory instruments and the operation of specialized equipment; developing, testing, and implementing new methods, standards, procedures; and technologies; ensuring compliance with federal certification and accreditation authorities; managing multiple projects simultaneously; and written and verbal communication skills.

Behaviors required to perform these duties:

See MDT Core Behaviors

Education:

Check the one box indicating minimum education requirements for this position for a new employee the first day of work:

- | | |
|---|---|
| <input type="checkbox"/> No education required | <input checked="" type="checkbox"/> Related AAS/2-years college/vocational training |
| <input type="checkbox"/> High school diploma or equivalent | <input type="checkbox"/> Related Bachelor's Degree |
| <input type="checkbox"/> 1-year related college/voc. training | <input type="checkbox"/> Related Master's degree |

Please specify the acceptable fields of study:

Required/Acceptable: Engineering, Education, Physical Sciences, Physics, Mathematics, and Technical Writing

Related: Construction Technology

Experience:

Check the one box indicating minimum work-related experience requirements for this position for a new employee the first day of work:

- | | |
|---|---|
| <input type="checkbox"/> No prior experience required | <input type="checkbox"/> 3 years |
| <input type="checkbox"/> 1 year | <input checked="" type="checkbox"/> 4 years |
| <input type="checkbox"/> 2 years | <input type="checkbox"/> 5 or more years |

Other specific experience: Four (4) years of work related experience must be in a combination of at least two (2) years materials lab/testing experience and at least two (2) years teaching and/or instructional experience.

Alternative Qualifications:

This agency will accept alternative methods of obtaining necessary qualifications.

- ☒ Yes ☐ No

Alternative qualifications include: Candidates with either a related associate's degree or two years of related post-secondary education plus six (6) years of progressively responsible (advanced) materials lab experience. Other related experience will be considered on a case by case basis. One year of supervisory or program/project management experience can be substituted for two years of the related experience.

SECTION IV – Other Important Job Information

- | | |
|--|--|
| <input type="checkbox"/> Fingerprint check | <input checked="" type="checkbox"/> Valid driver's license |
| <input type="checkbox"/> Background check | <input type="checkbox"/> Other; Describe |

Other information including working conditions such as shifts, lifting requirements, travel or hours.

SECTION V – Signatures

Signature indicates this statement is accurate and complete.

Employee:

Name: _____ Title: _____

Signature: _____ Date: _____

Immediate Supervisor:

Name: _____ Title: _____

Signature: _____ Date: _____

Bureau Chief:

Name: _____ Title: _____

Signature: _____ Date: _____

Division/District Administrator:

Name: _____ Title: _____

Signature: _____ Date: _____

Department Designee:

Brent Rabe/Designee

Human Resources Administrator
Human Resources Division

Signature: _____ Date: _____